Yellow nail syndrome is an abnormality of lymphatic drainage associated with:

- ☒ Recurrent bronchiectasis
- ☒ Small bilateral pleural effusions
- ☒ Lymphoedema
- ☒ Grossly thickened, yellow nails.

TTT of Mycoplasma is Erythromycin , not Clindamycin.

The most common malignant tumour found in the lung ***is metastasis from another place.***
Pseudomonas is the most common colonising organism in **CF**.

Stridor is an abnormal sound produced by turbulent airflow through **a partially** obstructed airway at the level of the supraglottis, glottis, subglottis, or trachea. Stridor implies tracheobronchial obstruction. Expiratory stridor can be congenital or caused by tracheomalacia, previous surgery, reflux (particularly in paediatric cases).

Bronchial breathing is heard over an ***airless lung***, such as in *consolidation*, *atelectasis* or *dense fibrosis*. There is some resemblance to the sounds heard over the normal trachea, but, by comparison with normal breath sounds, bronchial breathing is higher in pitch and more blowing in quality. It does not have to be loud. Bronchial breath sounds are classically heard throughout both inspiration and expiration. Very quiet breath sounds are heard over hyperinflated lungs, as in emphysema, or when breath sounds are prevented from reaching the chest wall by a layer of air, fluid or fibrosis.

Mendelson syndrome is an acute pneumonia caused by regurgitation of stomach contents and aspiration of chemical material, usually gastric juices. It can cause severe bronchospasm. The pneumonia develops rapidly, and within hours the patient can become tachypnoeic, hypoxic and febrile. There is minimal sputum. The condition often follows anaesthesia, when the gag reflex is depressed.

TTT of thymoma is surgery, M.G often does not improve after the thymus is removed.

HCO3 takes 3-5 days to compensate the resp. acidosis.

Amphetamins>>Primary pulmonary hypertension.

Lung compliance is inversely proportional to the elastic recoil of lung, for example , if there is IPF >>>stiff lung = (less compliant)>>>increase recoil.

Loss of material from chromosome 22 is commonly seen in **mesothelioma**

Steroids owing to their anti-inflammatory properties are indicated with severe pulmonary toxicity to prevent methotrexate-induced lung damage.

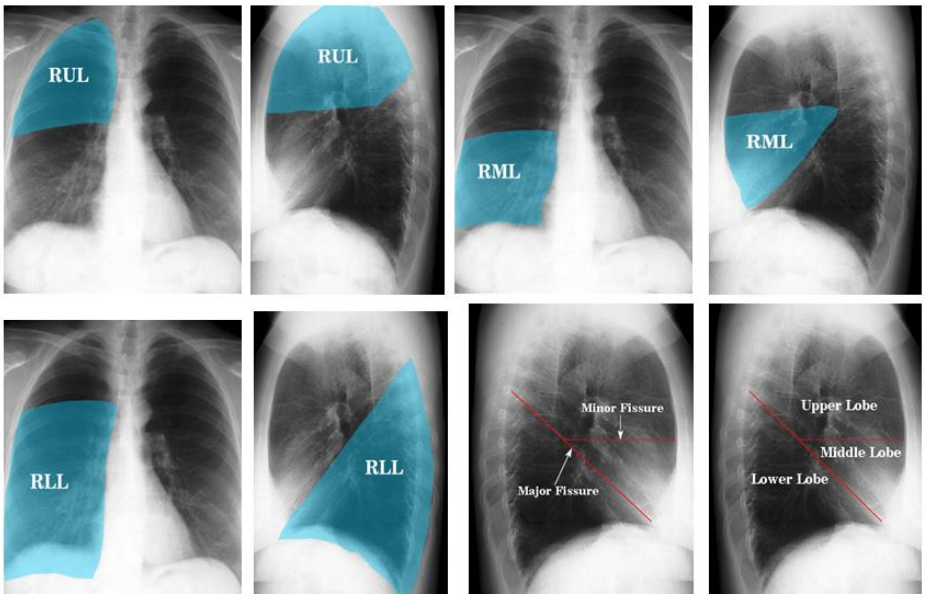
Increase in IPAP >>> wash CO2

Chest x-ray: white lung lesions

Directly look@ trachea:

Trachea pulled toward the white-out	Trachea central	Trachea pushed away from the white-out
Pneumonectomy Complete lung collapse e.g. endobronchial intubation Pulmonary hypoplasia	Consolidation Pulmonary oedema (usually bilateral) Mesothelioma	Pleural effusion Diaphragmatic hernia Large thoracic mass

Consolidation = fluid in the airspaces of the lung
Causes of consolidation: Acute pneumonia-chronic pneumonia, pulmonary oedema and neoplasm.***http://www.wikiradiography.net/page/Lung+Anatomy***



MacLeod syndrome is unilateral emphysema following childhood bronchiolitis.

TTT of TB (rule of 6): 4 drugs for 2 months , then 2 drugs for 4 months

ولوكان TB meningitis يبقى 10 شهور بدلا من 4 يعني توتال سنة

Multidrug-resistant TB is defined as resistance to rifampicin and isoniazid, with or without resistance to other anti-TB drugs.

Amikacin, Levofloxacin and Azithromycin are all potential second line agents which are used in the treatment of resistant TB.

Pleural aspirate>> eosinophilia makes malignancy less likely

Low glucose levels occur in RA, TB empyema & malignancy
Protein in pleural fluid>30=exudate, <30= transudate.

ANA is diagnostic for SLE

EAA can be classified according to how acutely it presents:
In the acute form, fever, cough and marked SOB occur 4–6 hours after exposure.
In the subacute form there is weight loss and fatigue.
In the chronic form there is exertional SOB and pulmonary fibrosis (upper-lobe).

The chest X-ray shows fine reticular or nodular shadowing, progressing eventually to a fibrotic pattern, with shrunken lungs.

During acute asthma the lung volumes will be decreased, particularly the FEV1: decrease FEV1, FVC>> trapping of gas in lung >>increase in residual volume & TLC.

Flow–volume loop examination is the best way to ascertain the effects of extrathoracic tracheal compression.

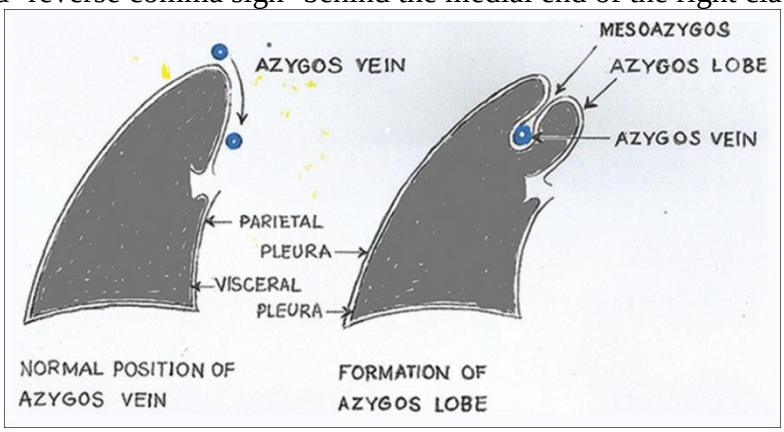
Isocyanates are a recognized risk factor for the development of non-small-cell lung cancer.

Type **II** pneumocyte>>surfactants

For surgical resection in lung cancers,

- FEV1 should be >1.5 litres, and
- FEV1 > 50% of the observed FVC.
- Normal PaCO2 at rest.

An azygos lobe is seen in about 0.5% of routine chest X-rays and is a normal variant. It is seen as a 'reverse comma sign' behind the medial end of the right clavicle.



Hemidiaphragm paralysis
The diagnosis of **unilateral** paralysis, suggested by asymmetric elevation of the affected hemidiaphragm on X-ray, can be confirmed by fluoroscopy. During a forced inspiratory manoeuvre (the 'sniff' test), the unaffected hemidiaphragm descends forcefully, increasing intra-abdominal pressure and pushing the paralysed hemidiaphragm cephalad (paradoxical
motion). Fluoroscopy is inaccurate for the diagnosis of bilateral paralysis. While MRI may

demonstrate a structural defect, it isn't a dynamic investigation.

COPD exacerbation (*H.influenzae* and *Moraxella catarrhalis*.) ; TTT macrolide.

If using inhalation steoids>>rinse his mouth after each use.

Pirfenidone reduces risk of IPF progression by **30 %** and has been approved by NICE for use in **mild-moderate disease (FVC 50-80 % predicted).**

In IPF: ANA positive in 30%, **RF** positive in 10% but this does not necessarily mean that the fibrosis is secondary to a connective tissue disease. Titres are usually low.

Despite being not allergy, in EAA (=hypersensitivity pneumonitis) ,BAL would show lymphocytosis.

Important CT hint

Ground Glass opacity is different from true consolidation:

In true consolidation, the area appears white since the lung opacity obscures the vessels.

In Ground Glass opacity: The degree of increased lung opacity is not sufficient to obscure pulmonary vessels.

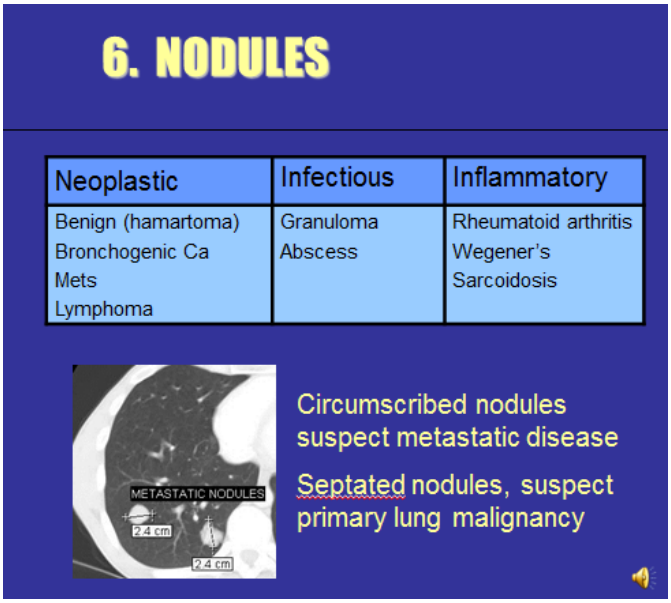
Ground Glass opacity (non specific finding) , DD;

- Alveolitis or interstitial pneumonitis
  - Hypersensitivity pneumonitis
  - IPF
  - Sarcoidosis
- Pulmonary edema
- Resolving pneumonia/ hemorrhage

Airway obstruction:

- ✓ **Large** airway obstruction (BA/CH.bronchitis).
- ✓ **Small** airway obstruction (emphysema).

Emphysema ; permanent enlargement of air spaces distal to the terminal bronchioles ,and destruction of the walls without obvious fibrosis.



In pneumothorax , Air slowly resorbs from the pleural space at a rate of 1.5% / day.

Pulmonary nodules:

- Nodules < 5 mm require no further surveillance.
- Nodules 5-6mm require CT at 1 year
- Nodules >6 mm require CT at 3 months
- Nodules > 8 mm require malignancy risk calculation using the Brock model and should then have CT or PET according to whether this risk is > 10%.

Stap. aureus (commonly associated with systemic infections in **IVDU**)>>bibasal pneumonia **as opposed to *pneumococci***>> single lobar pneumonia.

Q- What is the benefit of oxygen In the treatment of a pneumothorax?

Ans; Exchange of nitrogen for O2 allowing quicker resorption of the pneumothorax

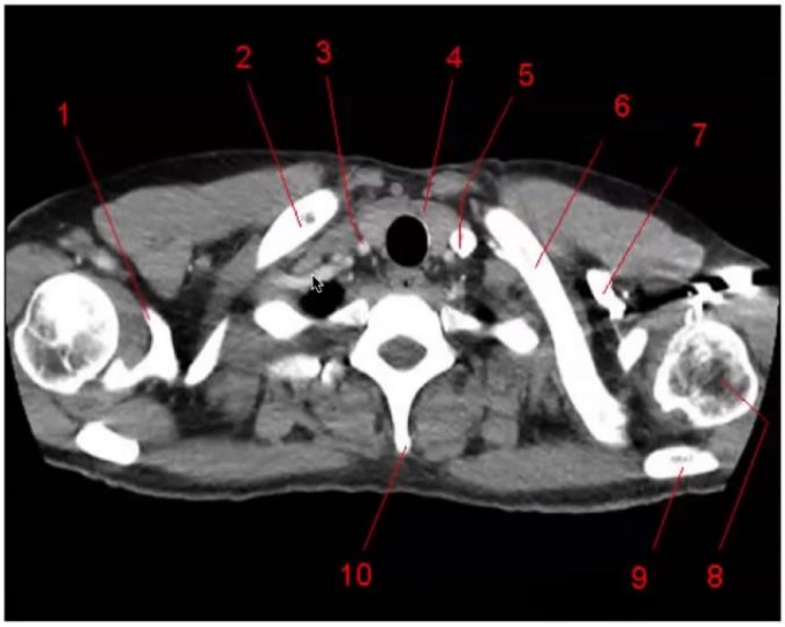
occupations at risk of silicosis (mining المناجم slate works أعمال التصخر foundries سبك potteries أعمال الفخار المعادن).

In CT

Recognizing different mediums

- Air – black
- Fluid – grey
- Soft tissues - various shades of grey
- Bone –dense white
- Blood – white
- Contrast –dense white

Mediastinal Anatomy



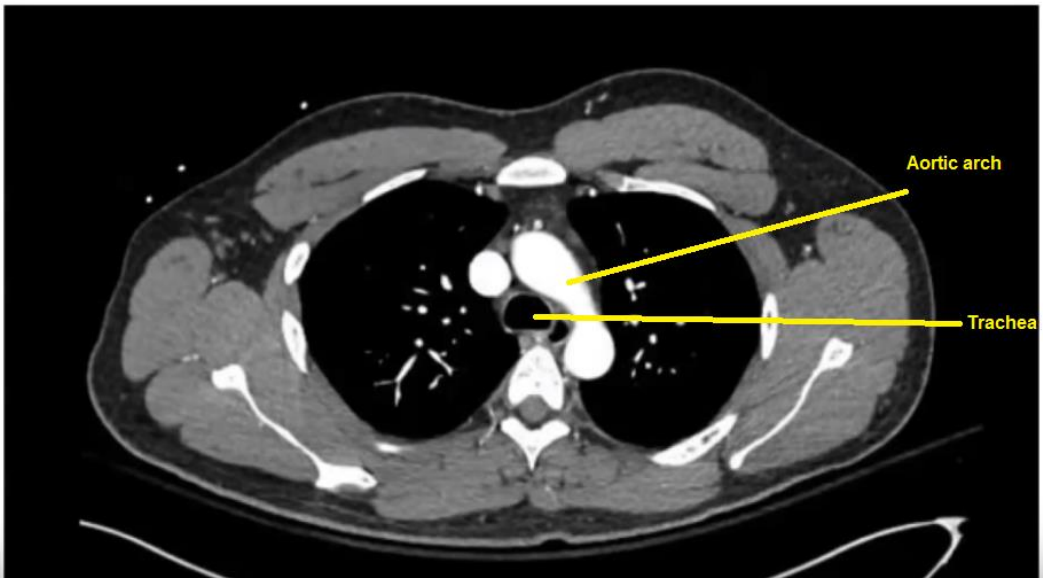
1. Coracoid
2. Right clavicle
3. Right common carotid
4. Thyroid
5. Internal jugular vein
6. Left clavicle
7. Left subclavian vein
8. Left humeral head
9. Scapular spine
10. Spinous process

Approach to CT chest

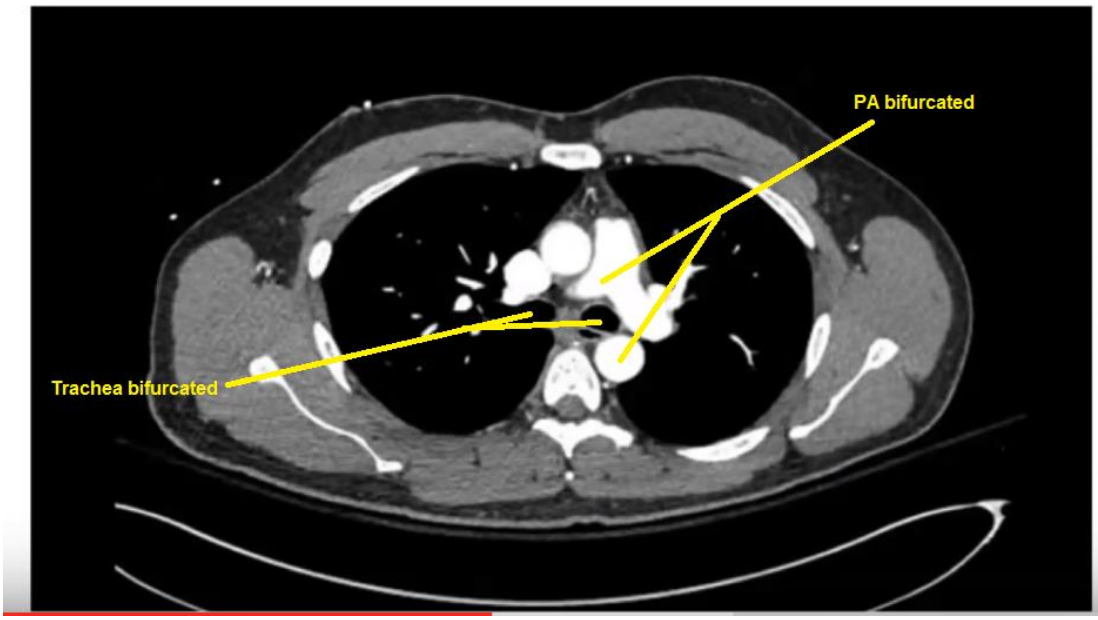
Step 1: Identify the level using anatomical landmarks

- sternoclavicular joint – T1
- sternal angle of Louis, second rib, aortic arch– T4
- carina of the trachea – T5
- bifurcation of pulmonary trunk – T5/T6
- inferior pulmonary veins enter L atrium – T7/ T8

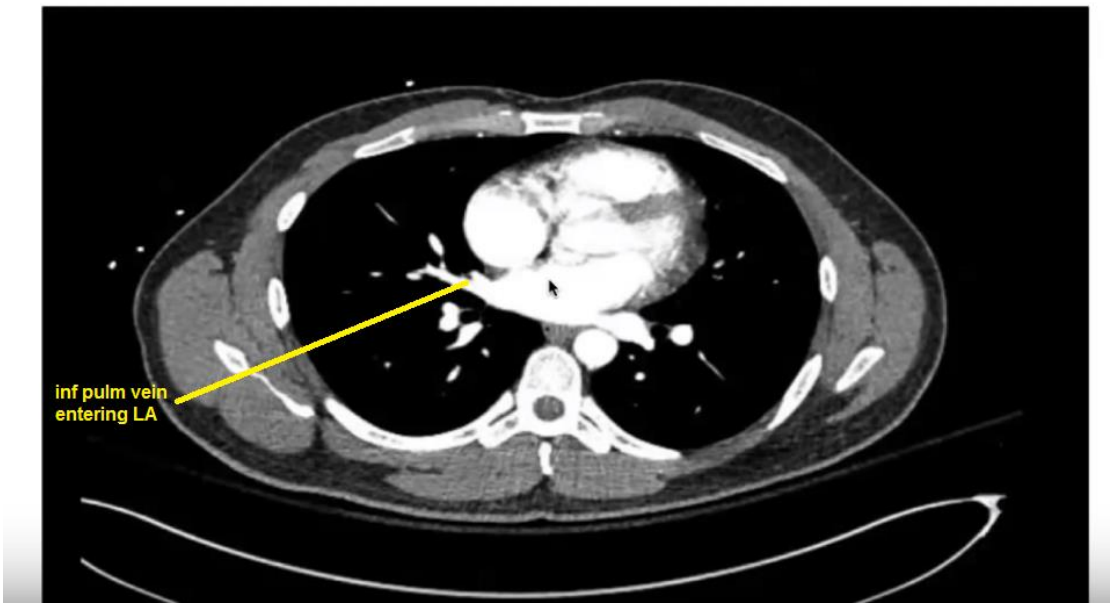
Example: CT Scan at T4



Example: CT Scan at T5/T6



Example: CT Scan at T7/T8



Step 2: Systematic assessment

- A-air
- B-bone
- C-cardiac & great vessels
- D-digestive
- E-extras
- S-soft tissue

Coxiella burnetii is rare and associated with farm animal exposure.
Normal TLCO = intact alveolar and capillary structure.
Panacinar emphysema is due to α-1-antitrypsin deficiency; **centriacinar** emphysema is more with smoking-induced COPD. Panacinar >>> low TLCO.

Small cell lung cancer>>SVC obstruction
Squamous >>>cavity.
Bronchiolitis obliterans describe fibrous scarring of the small airways
It presents as dry cough and dyspnoea. Physical examination is unremarkable, although expiratory wheeze might be audible. CXR may be normal or reticular or reticulonodular pattern. The diagnosis can be confirmed by lung biopsy. Patients rarely respond to steroids and the prognosis is poor.

Bronchiolitis obliterans organizing pneumonia (BOOP) (=cryptogenic organizing pneumonia); هذه ليست bronchiolitis obliterans.
It is often a complication of an existing chronic inflammatory disease such RA , or any other CT disorder or Amiodarone.
"Organizing" refers to unresolved pneumonia (in which the alveolar exudate persists and eventually undergoes fibrosis) in which fibrous tissue forms in the alveoli

Silicosis/bronchiolitis obliterans >>mixed obstructive/restrictive picture.

Whispering pectoriloquy (صدري) is a sign of consolidation

Recurrent hemoptysis with **segmental collapse** (eg; Lt upper lobe) is a typical presentation of **bronchial** carcinoid.

Piperacillin and tazobactam (Tazocin) is used in cystic fibrosis exacerbation

In Lung cancers, presence of Malignant pleural effusion is predictive of poor outcome if you want to treat ptn. with radical radiotherapy.

Pleural effusion in RA:
High LDH (> 700 IU/l)
High RF titre (> 1:320)
High cholesterol levels
Low glucose (< 1.6 mmol/l)
Low pH (< 7.2)
Klebsiella pneumonia is more common in patients with a history of alcoholism and the typical picture is one of cavitating lesions predominantly affecting the upper lobes, as seen here. 3rd cephalosporins or quinolones are used as standard therapy for *Klebsiella* infection. *It has* a mortality rate of up to 50%, and patients who respond poorly to therapy are at increased risk of lung abscess formation.

Serum ACE is only raised in 60% of patients with sarcoidosis.

LTOT in COPD, if PaO2 < 7.3 or (7.3-8)+.../منفخ/أزرق/أحمر

SVC obstruction by
- lung cancer>>>TTT is by stenting SVC.
- Blood malignancy>>>TTT by steroids.
- Benign tumor>>surgical bypass.

Q Fever:

Coxiella burnetii infection is acquired through contact with animals.

It is not notifiable, but can occur in outbreaks in farming communities & in abattoirs السلخانات and therefore an occupational history is very important.

The organism is very resistant to drying and is inhaled from infected dust.

CXR: might show multilobar consolidation.

TTT is with prolonged courses of tetracyclines.

Rarely, infection can be persistent, leading to chronic symptoms, including fatigue, malaise and sweats. In cases of chronic disease, culture-negative endocarditis should be suspected.

PEFR reflects large airways diameter (so affected in BA=Large airway disease).
FEF (Forced expiratory flow rate) reflects small airways diameter, It is more sensitive than the forced expiratory volume in 1 second (FEV1) for identifying early airway obstruction.

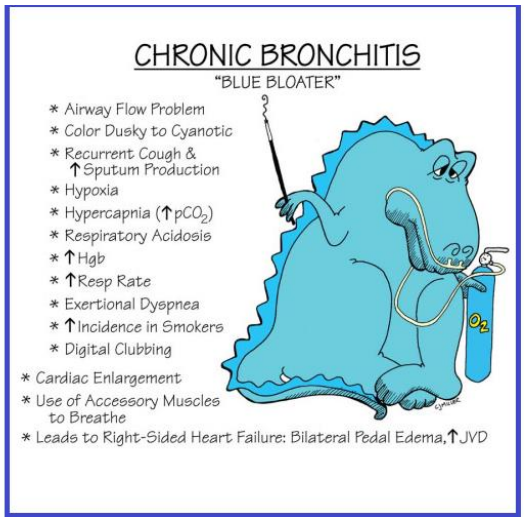
Tidal volume may be altered to a similar degree in both restrictive lung disease and obstructive lung disease

Patients with haemophilia A were more susceptible to HIV due to frequent blood transfusions.

TTT of Legionella/Mycoplasma= Macrolides.

‘pink puffer’ and ‘blue bloater": both in COPD.

pink puffer’ أحمر	**blue bloater أزرق ومنفخ**
good respiratory drive	poor respiratory drive. أزرق
thin and elderly	obese منفخ
Little sputum	Large volume of sputum,infective exacerbations. منفخ
Edema , cor pulmonale are rare	Often oedematous, Cor pulmonale منفخ
Pursed-lip breathing with intense dyspnoea	mild dyspnoea
TLC increased	Severe nocturnal hypoxaemia أزرق
TLCO is low	TLCO is normal
ABG nearly **normal** until pre-terminally	Chronic type II RF أزرق
Terminally: very severe airways obstruction	Airways obstruction might only be moderate



TLCO (N: 80-120%):

- ✓ Increase:in AHPLOS (obesity/supine position) . ماعدا الأنيميا >>بتقلله
- ✓ Decrease: أي حاجة هتعوق الـ جاز ديفيوجن
  - ☒ All obstructive lung disease except BA.
  - ☒ Anemia
  - ☒ Parenchymal diseases (including IPF).
  - ☒ Pulmonary vascular disease.

NB; TLCO may be increased or even normal in BA.

Decreased FEV1/FVC +decrease in VC >>>mixed ventilator defect (obst. & restr.) ; TB/lung cancer/emphysema/severe BA.

Non-resolving pneumonia is an indication of bronchogenic carcinoma.

OSA:

Moderate to severe >>>CPAP.

Causes of fluffy shadows on CXR:

pulmonary oedema/ Hge

ILD

vasculitic lung disease

Air Bronchogram = refers to the phenomenon of air-filled bronchi (dark) being made visible by the opacification of surrounding alveoli (grey/white).
المفروض إن الـ Bronchi متحوطة بـ alveoli.. وكلاهما فيه هواء (يعني لونهم أسود) ودا الطبيعي اللي بيحصل هنا: إن الـ Bronchiزي ما هي فيها هواء، ولكن الـ surrounding alveoli بقى فيها حاجة تانيه غير الهواء (يعني بقه فيه في الـ aveoli<<< fluid) فتظهر الـ bronchi سوداء,,,ومحاطة بلون أبيض.
https://www.med-ed.virginia.edu/courses/rad/cxr/interpretation4chest.html

Atelectasis is the collapse or closure of a lung.
CO poisoning >> metabolic acidosis. هاااااااااام

Neck size is the best predictor of **OSA**, with a size of more than 43 cm (17 inches) being associated with an increased risk in men (16 inches) in women.

Hyphaبتاعت الـ fungus وبتكون septate hyphae في حالات الـ Aspergillus.

Hyphae on tomato 

Cough-variant asthma represents one end of the asthma spectrum, with airway inflammation but minimal bronchoconstriction. the cough is typically worse In the mornings, in the cold air and after exercise.
يعني بيكح كحة ناشفة وبس..مفيش فيها أي wheezes

والعلاج : جرعة كورتيزون كبيرة لمدة شهرين ع الأقل

Organising pneumonia can occur in rheumatoid arthritis, with fever, dyspnoea and multifocal consolidation. This responds dramatically to steroids.